

REMARKS

In the Office Action dated October 5, 2006, claims 1-10 were rejected under §112, second paragraph as being indefinite because the Examiner stated the phrase "a non-zero angle relative to said boundary" is vague and indefinite and not understood. The Examiner stated a similar problem exists for claim 3.

This rejection is respectfully traversed because Applicant submits this language is extremely precise, and easily understandable to those of ordinary skill in the relevant technology, and was used as an alternative to more generic language in furtherance of the requirements of §112, second paragraph, that the claims particularly point out and distinctly claim that which the Applicant regards as his invention. The term "non-zero angle relative to said boundary" was intended to mean, and would clearly be understood by those of ordinary skill in the relevant technology to mean, an angle other than 0° relative to the boundary. If the non-specific term "an angle" had been used in this context, it could have meant any angle from 0° to 180°. An angle of 0° is still encompassed within the generic (non-specific) definition of an "angle." Since an angle of 0° does not serve the intended purpose of the claimed subject matter, it was necessary to use language that would preclude the claimed angle from having a value of 0°, and the phrase "a non-zero angle relative to said boundary" clearly conveys this intended meaning.

This phrase in claims 1 and 3, therefore, is submitted to be in full compliance with all provisions of §112, second paragraph.

Claims 1-10 also were rejected under §112, second paragraph as being indefinite because the Examiner stated in claim 1, lines 11-12, it is not understood how the coefficient of thermal expansion of the fiber-reinforced material, and the further

material exhibit respective coefficients of thermal expansion that are substantially equal in a direction parallel to the boundary plane. This rejection is also respectfully traversed for the following reasons.

Every material that is subject to thermal expansion exhibits such thermal expansion in three-dimensions, but the degree of thermal expansion for particular materials is not necessarily equal in all three dimensions. A material could exhibit one amount of thermal expansion, for example, in the x-y plane, but could exhibit a different degree of thermal expansion along the z-axis. In the subject matter disclosed and claimed in the present application, it is important that the coefficient of thermal expansion of the fiber-reinforced material, and the coefficient of thermal expansion of the thermal material, be substantially equal in a direction that is parallel to the boundary plane. Whether these materials exhibit a coefficient of thermal expansion in some other direction is not relevant, or at least not as important, as the coefficient of thermal expansion exhibited in the direction parallel to the boundary plane.

Since the coefficient of thermal expansion, for a three-dimensional volume of material, is itself three-dimensional, i.e., it must define the degree of expansion of the material respectively in each of the three dimensions of the volume, it is necessary in claim 1 to define in which of these directions the coefficient of thermal expansion of the two different materials must be substantially equal. This direction is a direction parallel to the boundary plane.

This is clearly explained in the present specification in the last paragraph at page 8 and the first paragraph of page 9, with regard to Figure 2. As can be seen from that figure, the refractory metal alloy 2 represents the "further material" of claim 1 of the present application. This material has a coefficient of thermal expansion represented

by the length of the double arrowed line α_A , whereas the fiber-reinforced material 1 has a coefficient of thermal expansion represented by the length of the arrow α_{CC} . By orienting the fibers 3 in the fiber-reinforced material 1 at the angle γ , this "converts" the coefficient of thermal expansion of the fiber-reinforced material 1 to a value equal to α_A , in a direction parallel to the boundary between the material 2 and the material 1.

This also explains why the angle γ must be a non-zero angle, as described above. If the angle γ were 0° , this would mean α_{CC} would precisely overlap α_A and thus there could be no "conversion" of the coefficient of thermal expansion.

Claims 1 and 3 have been editorially amended to make a minor language change that is necessary to make the previously-made changes grammatically correct.

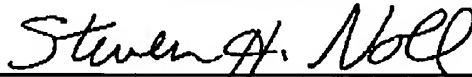
All claims of the application are therefore submitted to be in full compliance with all provisions of §112, second paragraph. The minor editorial changes that have been made in claims 1 and 3 do not raise any new issues requiring further searching or consideration, and therefore the present Amendment is properly enterable under 37 C.F.R. §1.116. Reconsideration of the application is respectfully requested.

Applicant also wishes to comment on the fact that the information for contacting the Examiner provided in the Office Action in Section 5 beginning at page 3, is either wrong or completely inadequate. The Examiner provided a Rightfax number for contacting the Examiner, but the undersigned representative of the Applicant made numerous attempts to contact the Examiner through that number, and the number is *always* busy. Moreover, the Examiner's direct telephone contact number is never answered, but is always referred to the voicemail system, but there is then a message that the Examiner does not subscribe to the voicemail system, and therefore it is impossible to leave a voicemail message for the Examiner. Thus it is impossible to

contact the Examiner either by facsimile or by telephone. Moreover, the Examiner did not identify a supervisory person who could be contacted in place of the Examiner.

Applicant submits that prosecution of the present application could have been much more easily advanced by a brief discussion on the above points between Applicant's representative and the Examiner. The Examiner's apparently deliberate attempts to make the Examiner inaccessible to contact has necessitated the submission of this written response. The undersigned representative of the Applicant submits that if he made himself similarly inaccessible to the Examiner, criticism would be justified. The same is true with regard to the inaccessibility of the Examiner with regard to inquiries by Applicant's representative.

Submitted by,



(Reg. 28,982)

Schiff, Hardin LLP

CUSTOMER NO. 26574

Patent Department

6600 Sears Tower

233 South Wacker Drive

Chicago, Illinois 60606

Telephone: 312/258-5790

Attorneys for Applicant.

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